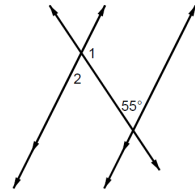


Worksheet 3.3 Parallel Lines

Find $m\angle 1$ and then $m\angle 2$. State the theorems or postulates that justify your answers.

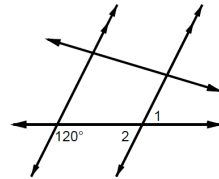
1.



$$\angle 1 = 125$$

$$\angle 2 = 55$$

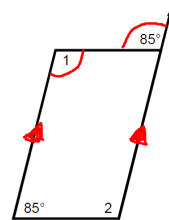
2.



$$\angle 1 = 60$$

$$\angle 2 = 60$$

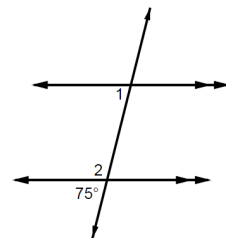
3.



$$\angle 1 = 85$$

$$\angle 2 = 95$$

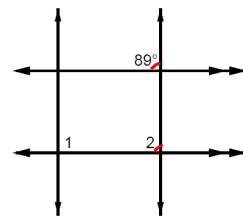
4.



$$\angle 1 = 75$$

$$\angle 2 = 105$$

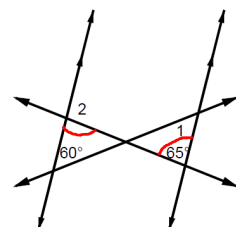
5.



$$\angle 1 = 91$$

$$\angle 2 = 89$$

6.

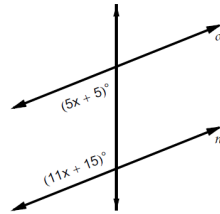


$$\angle 1 = 60$$

$$\angle 2 = 115$$

Determine the value of x for which $n \parallel o$.

7.



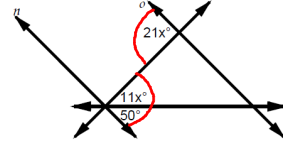
$$5x + 5 + 11x + 15 = 180$$

$$16x + 20 = 180$$

$$16x = 160$$

$$x = 10$$

8.

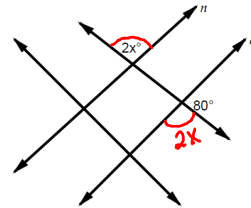


$$21x = 11x + 50$$

$$10x = 50$$

$$x = 5$$

9.

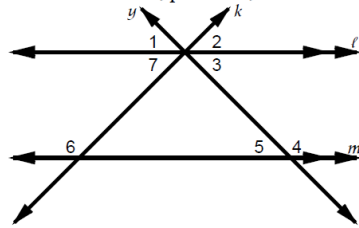


$$2x + 80 = 180$$

$$2x = 100$$

$$x = 50$$

State the theorem, postulate, or definition that justifies each statement.



10. $m\angle 3 + m\angle 4 = 180$

same side interior

11. $\angle 1 \cong \angle 5$

corresponding

12. $\angle 3 \cong \angle 5$

alternate interior

13. $\angle 1$ and $\angle 3$ are vertical angles

across-intersecting lines

14. $\angle 7 \cong \angle 2$

Vertical angles

15. $m\angle 5 + m\angle 4 = 180$

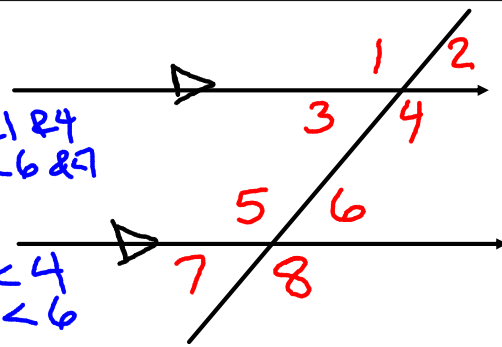
supplementary / linear pair

congruent

Vertical pair $\angle 5 \& \angle 8$, $\angle 1 \& \angle 4$
 $\angle 3 \& \angle 2$, $\angle 6 \& \angle 7$

alternate interior $\angle 5 \& \angle 4$
 $\angle 3 \& \angle 6$

corresponding $\angle 1 \& \angle 5$
 $\angle 2 \& \angle 6$, $\angle 8 \& \angle 4$
 $\angle 3 \& \angle 7$



supplementary

linear pair

$\angle 1 \& \angle 2$, $\angle 3 \& \angle 4$
 $\angle 5 \& \angle 7$, $\angle 5 \& \angle 6$
 $\angle 7 \& \angle 8$, $\angle 8 \& \angle 6$
 $\angle 1 \& \angle 3$, $\angle 2 \& \angle 4$

same side interior
 $\angle 5 \& \angle 3$, $\angle 6 \& \angle 4$

PAIDEIA SEMINAR PREP

- 1) Rewrite the first 12 of Euclid's elements in your own words.
- 2) Answer "Which of these definitions seems the most significant to you?" and explain why, in at least one paragraph. (this will be turned in)
- 3) Write at least 5 questions that you would like to discuss in the Paideia seminar.